

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) An apparatus for collecting particles entrained in a gas from a source of gas and particles, the apparatus comprising:

a housing defining an enclosed chamber, the housing ~~an~~ having an inlet opening providing fluid communication between the source of gas and particles and the chamber, and an outlet opening providing fluid communication between the chamber and the exterior of the housing, the outlet opening adapted to be connected to a fluid flow producing means for drawing gas and particles through the housing from the inlet opening to the outlet opening; and

a collecting member disposed in the chamber in the housing between the inlet opening and the outlet opening, the collecting member having an upper surface, at least a portion of the upper surface coated with an adhesive and positioned adjacent to the inlet opening so that the ratio of the distance between the inlet opening and the adhesive-coated surface to the diameter of the inlet opening is less than about 0.1,

such that, when gas and particles are drawn from the source of gas and particles and through the housing, the inlet opening directs the gas and particles at the adhesive-coated surface of the collecting member for capturing particles on the collecting member.

2. (original) A particle collecting apparatus as recited in claim 1, wherein the housing comprises a first portion for sealingly connecting to a second portion, each of the first and second portions having an inner surface defining a recess, the inlet opening and outlet opening opening into the recess in the first portion and second portions, respectively, and the walls of the first and second portions defining the recesses forming the chamber when the first and second portions are sealingly connected, the longest planar dimension of the recesses at the inner surface of the first and second portions being less than the longest dimension of the collecting member so that the inner surfaces of the first and second portions engage the collecting member at two spaced points.

3. (original) A particle collecting apparatus as recited in claim 1, further comprising a cap member having a pass through opening, the cap member adapted to be sealingly connected to the housing so that the pass through opening is in fluid communication with the inlet opening in the housing.

4. (original) A particle collecting apparatus as recited in claim 1, wherein the distance between the inlet opening and the surface of the collecting member is less than about 0.02 inches.

5.(original) A particle collecting apparatus as recited in claim 1, wherein the diameter of the inlet opening is less than about 0.2 inches.

6. (currently amended) ~~A~~ A system for collecting particles from a source of gas and particles, the system comprising:

a housing defining an enclosed chamber, the housing ~~an~~ having ~~an~~ a circular inlet opening providing fluid communication between the source of gas and particles and the chamber, and an outlet opening providing fluid communication between the chamber and the exterior of the housing;

means for producing a fluid flow, the outlet opening adapted to be connected to the fluid flow producing means for drawing gas and particles from the source and through the housing from the inlet opening to the outlet opening; and

a collecting member disposed in the chamber in the housing between the inlet opening and the outlet opening, the collecting member having an upper surface, at least a portion of the upper surface coated with an adhesive and positioned adjacent to the inlet opening so that the distance between the inlet opening and the adhesive-coated surface of the collection member is less than ~~about~~ about 0.08 inches and the ratio of the distance between the inlet opening and the adhesive-coated surface to the diameter of the inlet opening is less than about 1,

such that, when gas and particles are drawn from the source and through the housing, the inlet opening directs the gas and particles at the adhesive-coated surface of the collecting member for capturing particles on the surface of the collecting member.

7.(original) A particle collecting system as recited in claim 6, wherein the housing comprises a first portion for sealingly connecting to a second portion, the inner surface of each of the first and second portions defining a recess, the inlet opening and outlet opening opening into the recess in the first portion and second portions, respectively, and the walls of the first and second portions defining the recesses forming the chamber when the first and second portions are sealingly connected, the longest planar dimension of the recesses at the inner surface of the first and second portions being less than the longest dimension of the collecting member so that the inner surfaces of the first and second portions engage the collecting member at two spaced points.

8.(original) A particle collecting system as recited in claim 6, further comprising a cap member having a pass through opening, the cap member adapted to be sealingly connected to the housing so that the pass through opening is in fluid communication with the inlet opening in the housing.

9.(original) A particle collecting system as recited in claim 6, wherein the ratio of the distance between the inlet opening and the surface of the collecting member to the diameter of the inlet opening is less than about 0.5.

10.(original) A particle collecting system as recited in claim 6, wherein the ratio of the distance between the inlet opening and the surface of the collecting member to the diameter of the inlet opening is less than about 0.1.

11.(original) A particle collecting system as recited in claim 6, wherein the distance between the inlet opening and the surface of the collecting member is less than about 0.02 inches.

12.(original) A particle collecting system as recited in claim 6, wherein the diameter of the inlet opening is less than about 0.2 inches.

13. (currently amended) A method for collecting particles from a source of gas and particles, the method comprising the steps of:

providing a housing defining an enclosed chamber, the housing ~~an~~ having an inlet opening providing fluid communication between the source of gas and particles and the chamber, and an outlet opening providing fluid communication between the chamber and the exterior of the housing, the outlet opening adapted to be connected to a fluid flow producing means for drawing gas and particles through the housing from the inlet opening to the outlet opening;
providing a collecting member;

coating at least a portion of the upper surface of the collecting member with an adhesive;

positioning the collecting member in the chamber in the housing between the inlet opening and the outlet opening;

providing a cap member having a pass through opening, the cap member adapted to be sealingly connected to the housing so that the pass through opening is in direct fluid communication with the inlet opening in the housing;

providing a flexible hose connected at one end to the opening in the ~~body~~ cap member; and

drawing gas and particles from the source and through the hose and cap member and into the housing so that the inlet opening directs the gas and particles at the adhesive-coated surface of the collecting member.

14.(original) A method of collecting particles as recited in claim 13, further comprising the step of providing a rigid tube connected to the free end of the hose.

15.(currently amended) A method for calibrating a particle collection apparatus including a housing defining an enclosed chamber, the housing having an inlet opening providing fluid communication between a source of gas and particles and the chamber, and an outlet opening providing fluid communication between the chamber and the exterior of the housing, the outlet opening adapted to be connected to a fluid flow producing means for drawing gas and particles through the housing from the inlet opening to the outlet opening, and a collecting member disposed in the chamber in the housing between the inlet opening and the outlet opening, the collecting member having at least a portion of an upper surface positioned adjacent to the inlet opening such that, when gas and particles are drawn from the source of gas and particles and

through the housing, the inlet opening directs the gas and particles at the portion of the surface of the collecting member, the calibration method comprising the steps of:

providing a cap member having a pass through opening, the cap member adapted to be sealingly connected to the housing so that the pass through opening is in direct fluid communication with the inlet opening in the housing;

providing a flexible hose connected at one end to the opening in the ~~body~~ cap member; and

drawing gas and particles from the source and through the hose and cap member and into the inlet opening of the housing ~~so that the inlet opening directs the gas and particles at the adhesive coated surface of the collecting member.~~

16. (new) A particle collecting apparatus as recited in claim 1, wherein the housing defines a frusto-conical inlet passage tapering inwardly to the inlet opening.

17. (new) A particle collecting apparatus as recited in claim 16, wherein the housing has an integral protruberance extending outwardly from the outer surface of the housing for defining the inlet passage.

18. (new) A particle collecting apparatus as recited in claim 2, wherein the inlet opening is coplanar with the portion of the inner surface of the first portion of the housing defining the recess.

19. (new) A particle collecting system as recited in claim 6, wherein the housing defines a frusto-conical inlet passage tapering inwardly to the inlet opening.

20. (new) A particle collecting system as recited in claim 19, wherein the housing has an integral protruberance extending outwardly from the outer surface of the housing for defining the inlet passage.

21. (new) A particle collecting system as recited in claim 7, wherein the inlet opening is coplanar with the portion of the inner surface of the first portion of the housing defining the recess.

22. (new) An apparatus for collecting particles entrained in a gas from a source of gas and particles, the apparatus comprising:

a housing including a first portion for sealingly connecting to a second portion, each of the first and second portions having a planar inner surface and a recess formed therein, the inner surfaces of the first and second portions defining an enclosed chamber when the first and second portions are sealingly connected, the first portion having an inlet opening into the recess in the first portion and providing fluid communication between the source of gas and particles and the chamber, and the second portion having an outlet opening into the recess in the second portion and providing fluid communication between the chamber and the exterior of the housing, the outlet opening adapted to be connected to a fluid flow producing means

for drawing gas and particles through the housing from the inlet opening to the outlet opening; and

a collecting member disposed in the chamber in the housing between the inlet opening and the outlet opening, wherein the longest planar dimension of the recesses at the inner surface of the first and second portions being less than the longest dimension of the collecting member so that the inner surfaces of the first and second portions engage the collecting member at two spaced points, the collecting member having an upper surface, at least a portion of the upper surface coated with an adhesive and positioned adjacent to the inlet opening so that when gas and particles are drawn from the source of gas and particles and through the housing, the inlet opening directs the gas and particles at the adhesive-coated surface of the collecting member for capturing the particles,

wherein the inner surface of the second portion further defines opposed slots extending radially outwardly of the recess for receiving the collecting member, and wherein the depth of the slots is less than the thickness of the collecting member so that the inner surface of the first portion engages a portion of the collecting member when sealingly connected to the second portion.

23. (new) An apparatus for collecting particles as recited in claim 16, wherein the first portion comprises an internally-threaded peripheral flange and the peripheral surface of the second portion is threaded for receiving the first portion in a sealing connection.

24. (new) An apparatus for collecting particles as recited in claim 16, further comprising an o-ring disposed in a groove in the inner surface of the first portion or the second portion outwardly of the recess for providing a seal between the inner surfaces of the first and second portions.

25.(new) A cap member for use with a particle collection apparatus including a housing defining an enclosed chamber, the housing having an inlet opening providing fluid communication between a source of gas and particles and the chamber, and an outlet opening providing fluid communication between the chamber and the exterior of the housing, the outlet opening adapted to be connected to a fluid flow producing means for drawing gas and particles through the housing from the inlet opening to the outlet opening, and a collecting member disposed in the chamber in the housing between the inlet opening and the outlet opening, the collecting member having at least a portion of an upper surface positioned adjacent to the inlet opening such that, when gas and particles are drawn from the source of gas and particles and through the housing, the inlet opening directs the gas and particles at the portion of the surface of the collecting member, the cap member comprising:

a body having a pass through opening, the body adapted to be sealingly connected to the housing so that the pass through opening is in direct fluid communication with the inlet opening in the housing;

a flexible hose connected at one end to the opening in the body; and

a rigid tube connected to the free end of the hose.

26. (new) An apparatus for collecting particles entrained in a gas from a source of gas and particles, the apparatus comprising:

a housing defining an enclosed chamber, the housing having an inlet opening providing fluid communication between the source of gas and particles and the chamber, and an outlet opening providing fluid communication between the chamber and the exterior of the housing, the outlet opening adapted to be connected to a fluid flow producing means for drawing gas and particles through the housing from the inlet opening to the outlet opening;

a collecting member disposed in the chamber in the housing between the inlet opening and the outlet opening, at least a portion of an upper surface of the collecting member positioned adjacent to the inlet opening such that, when gas and particles are drawn from the source of gas and particles and through the housing, the inlet opening directs the gas and particles at the portion of the upper surface of the collecting member; and

a cap member having a pass through opening, the cap member adapted to be sealingly connected to the housing so that the pass through opening is in direct fluid communication with the inlet opening in the housing;

a flexible hose connected at one end to the opening in the body; and

a rigid tube connected to the free end of the hose.

27.(new) A particle collection apparatus as recited in claim 20, wherein the housing has an integral protuberance extending upwardly from the outer surface of the housing and defining an inlet passage tapering inwardly to the inlet, and the cap member includes a peripheral flange defining a cavity for sealingly receiving the protuberance.

28. (new) A particle collection apparatus as recited in claim 21, further comprising an o-ring disposed around the protuberance or in the peripheral flange of the cap member for sealing the connection between the protuberance and the cap member.